

METHOD AND APPARATUS FOR UTERINE  
CONTRACTION MONITORING USING LINEAR  
PREDICTIVE MODELING OF ABDOMINAL  
SURFACE EMG SIGNALS

ABSTRACT

A system and a method are provided for processing electromyogram (EMG) input signals from an abdominal surface to detect uterine contractions. The system comprises a sensor configured to detect a uterine EMG signal and generate an EMG input signal. The system further includes a signal processor coupled to the sensor and configured to generate an EMG prediction error signal. The signal processor performs signal-processing operations on the EMG input signal to generate the EMG prediction error signal, where the EMG prediction error signal corresponds to the magnitude of at least one contraction event and the periodicity of multiple contraction events.